

Amendments to the Specification

Please amend paragraph [0010] as follows:

[0010] That is, for recovering the carrier in the carrier recovery unit 106, the DC component is forcibly inserted into a transmitting signal in a transmitting unit. In this respect, the DC component is not required after recovering the carrier. Accordingly, the DC remover 107 extracts and removes the DC component from the base band signal outputted from the carrier recovery unit 106. Then, the digital signal of the base band having no DC component therein is outputted to a synchronizing unit 108 and a channel ~~equalizer~~equalizer 109.

Please amend paragraph [0012] as follows:

[0012] Accordingly, the synchronizing unit 108 restores the data segment synchronizing signal and the field synchronizing signal, which are inserted during transmitting, from the signal having no DC component therein. The restored signals are outputted to the channel ~~equalizer~~equalizer 109, a phase compensator 110, and an FEC (forward error correcting) unit 111.

Please amend paragraph [0013] as follows:

[0013] The channel ~~equalizer~~equalizer 109 removes a linear distortion of amplitude generating interference between symbols, and ghost generated by reflection on building or mountains, and then outputs the result to the phase compensator 110. After that, the phase compensator 110 removes the residual phase noise generated in the tuner 102 from the output signal of the channel ~~equalizer~~equalizer 109, and then outputs the result to the FEC unit 111. Then, the FEC unit 111 restores the transmitting symbol from the receiving signal having no phase noise by using the synchronizing signals, and then outputs the result as a transporting stream type.

Please amend paragraph [0047] as follows:

[0047] FIG. 7 is a spectrum illustrating a pilot signal and Nyquist slope characteristics;
and

Please amend paragraph [0061] as follows:

[0061] If the fixed frequency of the fixed oscillator 602 is twice a symbol clock frequency, the two output signals of the second complex multiplier 607 have the same type as the Offset

QAM signal. However, when the analog signal is transformed to the digital signal by using the fixed oscillator, it is required to use the fixed oscillator having the output frequency twice the symbol clock frequency, whereby the new passband signal, the output of the second complex multiplier 607, is very similar to the Offset QAM signal even though the new passband signal is not the Offset QAM signal. Accordingly, it is referred to as the Like Offset QAM signal.

Please amend paragraph [0064] as follows:

[0064] At this time, as shown in FIG. 7, all signals provided in the periphery of the carrier are not converted to have the frequency corresponding to 1/4 of the output frequency of the fixed oscillator 602. That is, only signal components corresponding to Nyquist Slope are converted. At this time, the Nyquist Slope is determined according to the capacity of data to transmit and the bandwidth of the signal used during transmitting the data.

Please amend paragraph [0067] as follows:

[0067] In addition, the signals existing on the Nyquist Slope in the periphery of the carrier signal are used to recover the carrier. That is, even though there is no carrier signal component in the receiving signal due to the linear noise, it is possible to recover the carrier. However, if both the carrier signal and the signal component existing on the Nyquist Slope are lost due to the linear noise on the transmission channel, it is impossible to recover the carrier. Thus, a carrier recovery device according to the second embodiment of the present invention is designed to recover the carrier even in case the carrier signal and the signal component existing on the Nyquist Slope are lost.

Please amend paragraph [0072] as follows:

[0072] If the subtract operation is performed with the absolute values of the two Like Offset QAM signals, the carrier signal component and the components of data blocks are converted to have the frequency corresponding to 1/4 of an output frequency of the fixed oscillator. Thus, in the carrier recovery device according to the second embodiment of the present invention, it is possible to recover the carrier even in case the receiving signal has no carrier signal and signal components existing on Nyquist Slope.

Please amend paragraph [0075] as follows:

[0075] Also, even in case the receiving signal has no carrier signal and signal component existing on Nyquist ~~Slot~~Slope, it is possible to recover the carrier, thereby improving efficiency of the digital TV receiver.